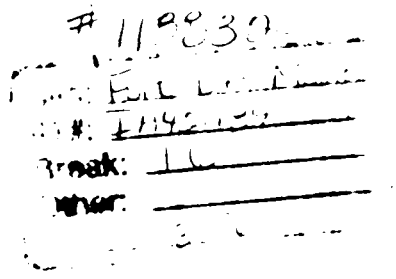

SITE SPECIFIC

ENVIRONMENTAL BASELINE SURVEY

FOR PARCELS AND

BUILDINGS

FORT DES MOINES

DES MOINES, IOWA

March 1996

1.0 INTRODUCTION

The Department of Defense (DoD) has established policy guidelines for an environmental review process to transfer, outgrant, or dispose of property by reaching a Finding of Suitability to Transfer (FOST). To support the FOST, an Environmental Baseline Survey (EBS) must be prepared for each deed transfer. An EBS for Fort Des Moines (FDM) was conducted in the form of a Community Environmental Response Facilitation Act (CERFA) investigation which was finalized in April 1994. The CERFA investigation included a review of existing investigative documents; U.S. Environmental Protection Agency (USEPA), State, and County regulatory records; environmental data bases; and title documents pertaining to the FDM.

In addition, the Army conducted interviews and visual inspections of the FDM as well as visual inspections and data base searches for the surrounding properties. This Site Specific Environmental Baseline survey has been prepared to provide a written update on the environmental condition of the parcels proposed for transfer. The effort associated with this update included personal interviews, a records review, and a visual site inspection (VSI) of the parcel(s) proposed for transfer. No sampling was conducted as part of this survey.

The Army proposes to transfer the following parcels: 1) parcel "X" (Table 1), a total of 13.72 acres including 11 buildings, to Tempus Utile, L.C.; 2) a total of 12.0 acres in Parcel "C" (9.63 acres and 7 buildings) and "D" (2.37 acres and 2 buildings)to 5th Judicial District (Table 2); 3) a total of 25.33 acres Parcel in "A" (23.74 acres and 10 buildings) and "B" (1.59 acres and 1 building) to City of Des Moines, Iowa (Table 3).

2.0 STUDY AREA DESCRIPTION

The present BRAC property at FDM consists of 53.30 acres. The property represents the remaining portion of a former U.S. Army Cavalry Post which was originally established on 640 acres in 1903. Much of the original property, approximately 557 acres, had already been transferred and are now being used for various commercial, residential, and recreational purposes. The Army proposes to transfer a total of 51.05 acres to the community.

Twenty seven of the 33 buildings in the parcels identified above, proposed for transfer, are historic structures, and listed on the National Register of Historic Places and comprise a National Historic Landmark. Their status on the register creates owner obligations. Therefore, deed restrictions are placed on the buildings to include, but not limited to,

restrictions on building renovation, repair, demolition, or otherwise altering the structures except in accordance with applicable law. Maps showing the locations of the parcels and associated buildings are provided at Figures 1, 2, and 3. A general description of the buildings can be found in Tables 1, 2, and 3.

3.0 PROPOSED REUSE

The proposed transfer addressed by this EBS is consistent with the reuse alternatives stated in the Environmental Assessment (EA) dated August 1991 for partial closure of Fort Des Moines. The EA indicated that the use of property would be moderately mixed commercial, industrial, and residential purposes.

The proposed use for parcel "X" by Tempus Utile, L.C., is residential. The Fifth Judicial Circuit proposes to incorporate parcels "C" and "D" into an existing and adjoining correctional facility. The City of Des Moines proposes to use parcels "A" and "B", and related existing structures, for storage and in support of adjoining recreational facilities.

4.0 STUDY METHODS

In addition to the reviews and inspections conducted during the Environmental Baseline Survey conducted in April 1994, as discussed in Section 1.0, this site specific EBS was conducted in accordance with applicable DoD guidance and consisted of the following:

a. Record Review: The record search consisted of a review of the environmental documents listed in Appendix A.

b. Interviews: As part of the VSI, interviews were conducted with; Gary Bianchi, the Installation Facility Manager, and others.

c. Visual Inspection: A site inspection was conducted on 19 and 20 October, 1995. Personnel participated in the walk through included Mr. Clayton Kim (USAEC), and Mr. David Packard (Omaha District), and others.

d. Sampling: No sampling was conducted as part of the VSI. However, numerous samples have been taken as part of the ongoing environmental investigation and are discussed in the documents referenced in Appendix B.

5.0 PARCEL DESCRIPTIONS

The DoD has developed a system for categorizing parcels to describe effectively the environmental condition of the

installation property and to provide relevant information regarding the past storage and release of hazardous substances.

The seven DOD categories are as follows:

1) Areas where no storage, release, disposal of hazardous Substances or petroleum products has occurred.

2) Areas where only storage (less than one year) of hazardous substances or petroleum products has occurred.

   Areas where only storage (one year or more) of hazardous substances has occurred, but no release or disposal occurred.

3) Areas where storage or release of hazardous substances has occurred, but at concentrations that do not require a removal, or remedial response.

4) Areas where storage, or release of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

5) Areas where storage or release of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

6) Areas where storage or release of hazardous substances has occurred, but required response actions have not yet been implemented.

7) Areas that are unevaluated or require additional evaluation

To further define and enhance the parcel descriptions under consideration in this analysis, buildings and other areas within a parcel warranting recognition were assigned to one of the above seven DOD categories. The result of this effort is found at tables 1, 2, and 3.

Tables 4-A through 4-E were developed to support the catagory designation for a building, or other area within a parcel: Tables 4-A and 4-B provide information on hazardous substance storage and releases. Tables 4-C and 4-D include detail

information on past petroleum product storage and releases. Table 4-E addresses PCB storage and release.

6.0 REMEDIAL ACTION UPDATE

6.1 Building 138

Buildings 138 and the former Building 67 were leased out to the Barco Chemical company for their commercial activities of pesticide blending in 1950, and continued the operation until 1959. Building 67 was previously transferred to the County and demolished prior to BRAC 1.

Pesticides and herbicides were detected throughout the building, primarily in the basement as a result of the pesticide blending activities. Additionally, an elevator shaft located near the center of the building, approximately sized as 8 feet by 8 feet, and 20 feet deep, was found to contain about 18 inches of oily waste and sludge.

In June, 1995, under the direction of the Army Corps of Engineers (Omaha District), the building was decontaminated. After gross dust and debris was removed, the interior surfaces were washed with a high pressured water, and vacuumed. Oily materials in the elevator shaft were removed and the shaft was decontaminated.

6.1.1 Removal of Contaminated Soil around Building 138

Pesticides were detected in soil samples collected around Building 138 and the former building site 67 during the EI. The highest concentrations were detected at a "hot spot" located just to the south of Building 138.

In June, 1995, the Army excavated and removed contaminated soils associated with the "hot" spot around building 138. The excavation was backfilled with clean soil and regraded. Soils were removed until concentrations of contaminants were at or below health based standards identified in the Army's Removal Action Memorandum dated July 7, 1995.

6.1.2 Groundwater

Volatile organic compounds and pesticides at or above regulatory standards were detected in the shallow groundwater near Buildings
138 and the former building site 67. The presence of this contamination is deemed associated with pesticide and herbicide

blending activities at the two buildings in the past. The principal source of the groundwater contamination was found it to be a storm sewer line that ran between these two buildings. The sewer line and contaminated soils were removed in June 1995. Soils were removed until concentrations of contaminants were at or below health based standards identified in the Army's Removal Action Memorandum dated July 7, 1995.

Additionally, the Army has decided to place the area under a long term monitoring program following the removal of the contaminant sources. The decision was based on the following reasoning: (1) the relatively low concentrations of contaminants in the shallow groundwater; (2) over the period of time, natural attenuation of contaminant concentrations would occur; (3) hydrologic tests indicate that the affected portion of the shallow aquifer has a low transmissivity, and non-productive rate of well yield capacity. Therefore, use of a pump and treat system in order to retrieve contaminated groundwater will not be cost-effective; and (4) current restriction by the Polk County for the use of the shallow aquifer for drinking or recreational purposes would further prevent the residents at the site direct exposure of contaminated groundwater.

6.2 UNRESTRICTED DISPOSAL AREAS (UDA)

Two UDAs previously existed at Fort Des Moines. UDA 1 is located southwest of Building 135. A drainage path begins at the edge of UDA 1, and extends to UDA 2. UDA 2 is located within the unloading area of the former rail car location to southeast of Building 135. The drainage path extends through a wooded area through most of the UDA 2 area into the Blank Park Zoo.

6.2.1 UDA 1

Uncontrolled dumping of tires, furniture, appliances, and bulk residential-type items had occurred here in the past. No evidence was found to indicate the presence of chemical disposal.

In 1995, under direction of the Corps of Engineers, Omaha District, waste debris was removed, the area regraded, and stabilized. The drainage ditch was lined with large stones, and gravel to prevent soil erosion.

6.2.2 UDA 2

Waste reportedly disposed of in this area consisted of utility poles and pallets. Environmental samples were taken of the area as part of the EI. Laboratory analysis of soils indicated the presence of semi-volatile compounds in concentrations ranging from .46 to 2.49 ppm, total petroleum hydrocarbons

(TPH) in concentrations ranging from 22.9 to 249 ppm, and a single low level pesticide detection of .0183 ppm DDT, and beryllium, cadmium, and zinc in one sample and lead in two samples were found below of the background level. The above named contaminants were evaluated and concluded by the EI risk assessment, and the risks posed by the site fell within an acceptable range for its intended use.

6.3 PCB TRANSFORMERS

Within the FDM property, a total of 33 transformers at 19 on-site locations were identified and evaluated for the presence of polychlorinated biphenyl (PCBs). Five of the (33) transformers were found to be contaminated with PCB elements of more than 500 parts per million (ppm), and eight transformers were found containing PCBs at concentration between 50 and 500 ppm. The remainder contained PCB concentrations less than 50 ppm. However, under direction of the Corps of Engineers, all of FDM transformers were removed in phases over the period starting 1993 and ending in 1995.

6.4 UNDERGROUND (USTS) AND ABOVEGROUND (ASTS) STORAGE TANKS

The EI survey reported that eight underground tanks, and five above-ground storage tanks at various buildings in FDM site (Table 4-C and 5). The tanks were formerly used for the storage of gas, diesel, fuel oil, and waste oil. All tanks were installed prior to 1950, except one at building 86 placed in 1973. All tanks were removed, except those whcih were investigated and found not present. Their absence was properly documented. Table 5 provides the UST information for their location, estimated size, contents, and status.

6.5 STORED HAZARDOUS MATERIALS

Small quantities of hazardous materials were stored at locations throughout the facility. These materials included old paint and lubricants and miscellaneous petroleum products. A list of hazardous materials stored, quantities when known, and their storage location is found at Table 4-A, 4-C, and 4-E. In June 1995, the Corps of Engineers directed the removal of all stored chemicals within the buildings.

7.0 OTHER ENVIRONMENTAL/SAFETY ISSUES

7.1 RADON

A facility-wide radon evaluation, except building 133 and 138, was conducted as part of the environmental investigation in 1991. At the time, Building 133 was a small temporary storage shed, not used for continuous human occupancy. Building 138 was not accessible due to pesticide contamination in the building interior. All but two buildings, 63 (5.2 pCi/L) and 72 (5.4 pCi/L), show less than the EPA guidance level of 4.0 picocuries per liter. In October 1992, radon samples again collected from buildings 63 and 72. Sample results were updated with the levels of 5.4 pCi/L and 7.8 pCi/L respectively. These concentrations of radon gas are considered only slightly elevated above the EPA guidance. There are no legal standards that regulate radon in residential housings. Of the concentration levels noted above, the Army would recommend a mitigation action be taken within 5 years. The transferee shall be responsible for the management of radon gas in the building 63, and 72, and 133, and 138 after transfer. Table 6 provides a summary of radon test results for FDM.

7.2 ASBESTOS

A comprehensive asbestos survey was performed in 1991/1992 as part of the Fort Des Moines EI. During the EI, asbestos sampling was conducted in every building with the exception of building 138, which was not sampled because of the presence of pesticide contamination. However, during the Army remedial work period in 1995, an asbestos survey for building 138 was conducted, and asbestos materials were removed during the building remediation. Asbestos still remains limitted areas not removed during remediation of pesticide contamination.

All pipe, elbow, and boiler insulation present at Fort Des Moines was found to be in friable condition. The friable asbestos-containing material included 3,400 linear feet of pipe insulation, 1,217 pipe elbows, and 5,530 square feet of boiler tank insulation. The non-friable asbestos-containing material included 42,900 square feet of floor tile and 17,592 square feet of transite panels.

The transferee will be responsible for the management of Asbestos in the buildings after transfer. A detailed description of the survey results is found in Table 7.

7.3 LEAD-BASED PAINT (LBP)

The presence of LBP was evaluated was evaluated during the EI. Many of the buildings at Fort Des Moines were constructed during the period between 1903 to 1907. Based on the age of the buildings, the EI concluded the probability to be high for LBP contamination of painted surfaces. Facility-wide sampling, conducted as part of the Fort Des Moines EI, confirmed the presence of LBP at levels exceeding the lead guidance level of 0.5 percent by weight set by the U.S. Department of Housing and Urban Development (HUD). In accordance with Department of Defense Policy on Lead-Based Paint at Base Realignment and Closure Properties, abatement of lead-based paint hazards is not required of buildings scheduled for non-residential use. Where the residential use of buildings is proposed, the transferee is to assume that LBP resides on all painted surfaces of the existing buildings. The transferee is required to treat any defective LBP surfaces in accordance with all applicable Federal, State, and local laws and regulations.

7.4 RADIATION

A final radiation survey was completed by the U.S. Army. The Army survey revealed that there were no radiological detections above the natural background radiation levels and that these buildings can be released for unrestricted use to the public.

8.0 RECOMMENDATION AS TO THE SUITABILITY TO TRANSFER

After inspection of the proposed transfer parcels, review of the documents available, the five parcels with thirty buildings are found to be environmentally suitable for transfer. This recommendation is based on the Army's Proposed Plan, and the remedial work performed, and the conclusions detailed in the technical reports.

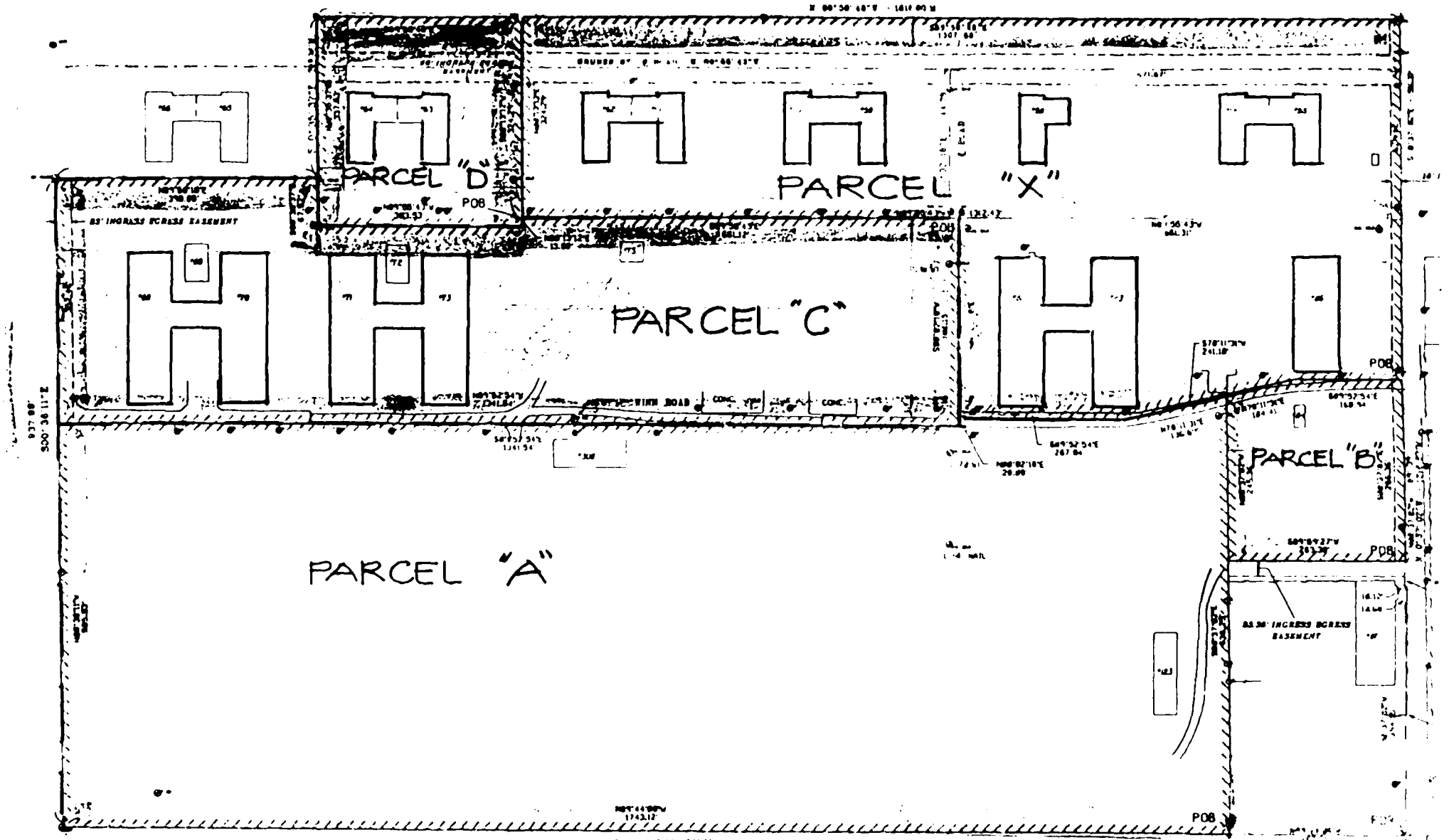

Figure 1
PARCEL MAP

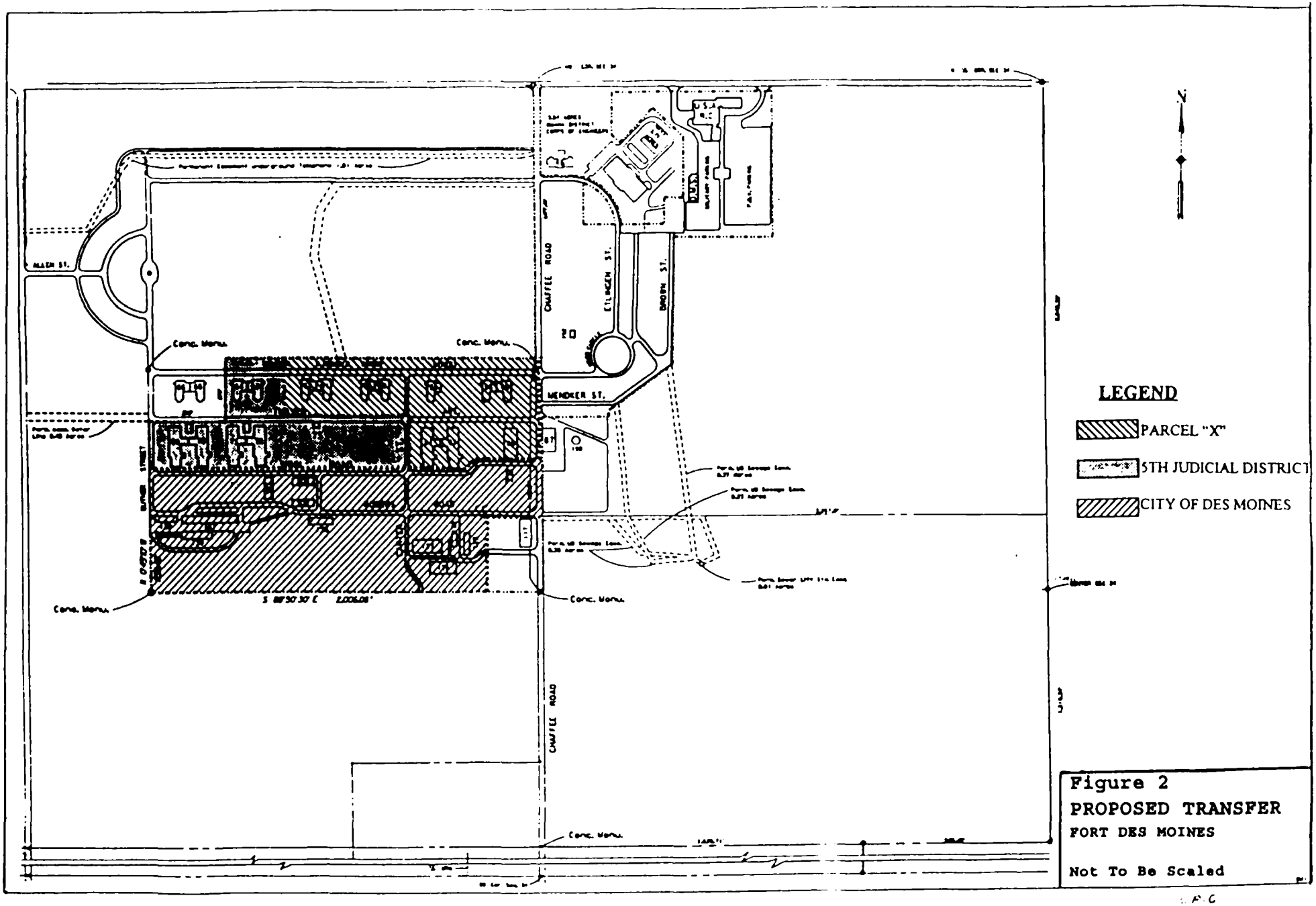

Figure 2
PROPOSED TRANSFER
FORT DES MOINES

Not To Be Scaled

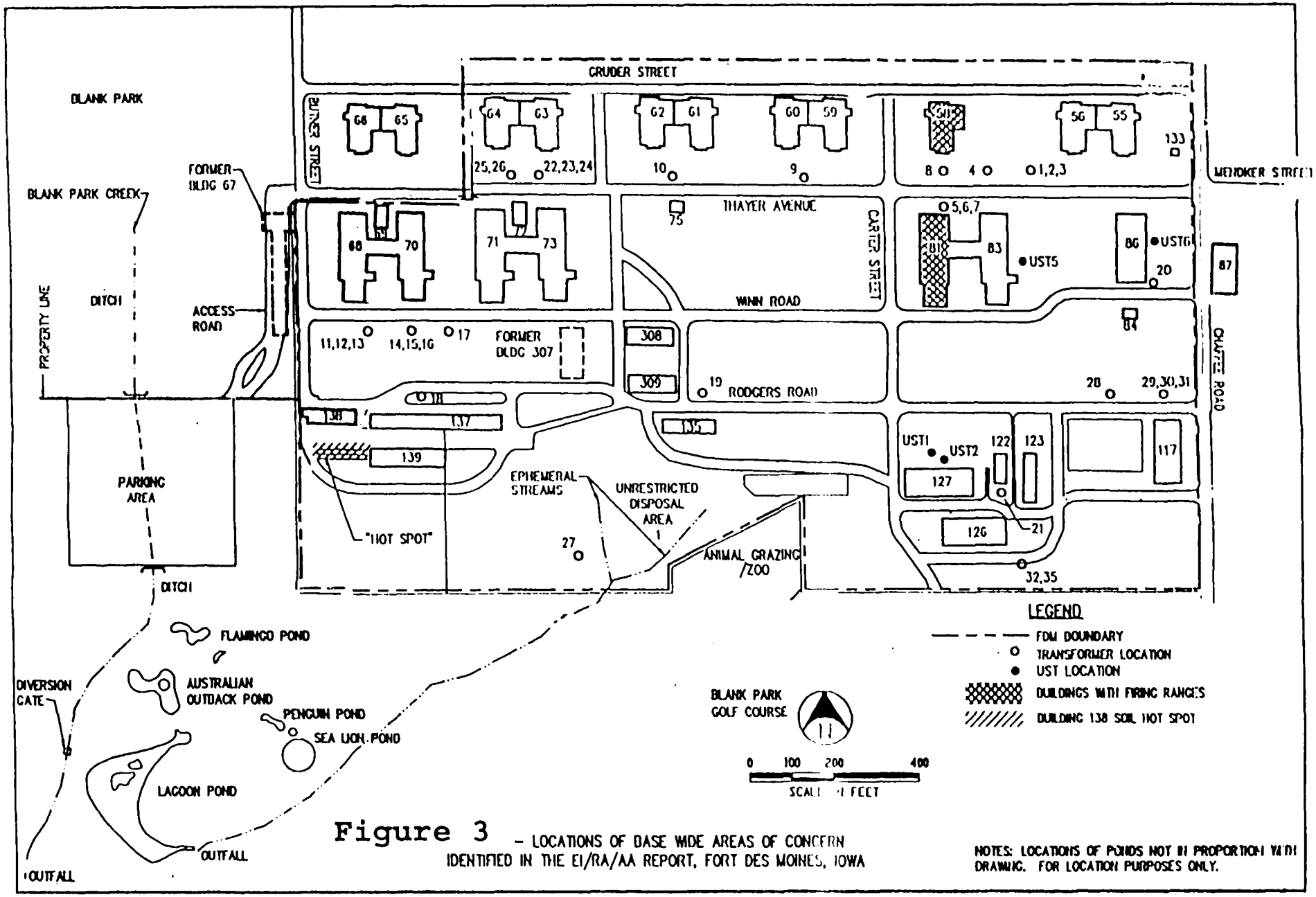

Figure 3 – LOCATIONS OF BASE WIDE AREAS OF CONCERN IDENTIFIED IN THE EI/RA/AA REPORT, FORT DES MOINES, IOWA

NOTES: LOCATIONS OF PONDS NOT IN PROPORTION WITH DRAWING. FOR LOCATION PURPOSES ONLY.

Table 1. Parcel X and Buildings for TEMPUS UTILE, L.C.:

1. A total of 13.72 acres in Parcel "X is proposed to transfer to the Tempus Utile, L.C.

2. Buildings contained within parcels to be transferred to Tempus Utile, L.C.:

BLDG	Bldg type	Building Descriptions
55	Brick	Former Troop Barrack/General Purpose
56	Brick	Former Troop Barrack/General Purpose
58	Brick	Former Troop Barrack/General Purpose
59	Brick	Former photo-lab/General Purpose
60	Brick	Former Troop Barrack/General Purpose
61	Brick	Former Photo-lab/General Purpose
62	Brick	Former Troop Barracks/General Purpose
81	Brick	Former Cavalry Stable/General Purpose
83	Brick	Former Vehicle Garage/General Purpose
86	Brick	Former Motor pool/General Purpose
133		Gas Regulating Shack

3. DOD Environmental Condition Categories

Category	Definition	Parcel and Building
1	Areas where no storage, release, disposal of hazardous substances or petroleum products has occurred	Bldgs:56,60 ,and 62
2	Areas where only storage (less than one year)of hazardous substances or petroleum products has occurred. Areas where only storage (one year or more) of hazardous substances has occurred, but no release or disposal occurred.	Bldgs:59,61 83, and 86
3	Areas where storage or release of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.	Bldg 55
4	Areas where storage or release of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.	58, and 81
5	Areas where storage or release of hazardous substances has occurred, and removal and remedial actions are underway, but all required remedial actions have not yet been taken.	Non-Applicable
6	Areas where storage or release of hazardous substances has occurred, but required response actions have not yet been implemented.	Non-Applicable
7	Areas that are unevaluated or require additional evaluation	Non-Applicable

Table 2. Parcels "C" and "D", and buildings for 5th Judicial Distrcit:

1. A total of 11.73 acres in Parcel "C" (9.63 acres) and "D" (2.37 acres), is proposed to transfer to 5th Judicial District:

2. Buildings contained within parcels to be transferred to the 5th Judicial District:

BLDG	Bldg type	Building Descriptions
63	Brick	Troop Barracks/General Purpose
64	Brick	Troop Barracks/General Purpose
68	Brick	Stable/warehouse/General Purpose
69	Brick	Stable/Warehouse/General Purpose
70	Brick	Stable guard/General Purpose
71	Brick	Stable/Warehouse/General Purpose
72	Brick	Stable guard/General Purpose
73	Brick	Stable/General Purpose
75	Brick	stable guard/General Purpose

3. DOD Environmental Condition Categories

Category	Definition	Parcel and Building
1	Areas where no storage, release, disposal of hazardous substances or petroleum products has occurred.	Parcel "C": 69,70,71,72 73,75
2	Areas where only storage (less than one year of hazardous substances or petroleum products has occurred. Areas where only storage (one year or more) of hazardous substances has occurred, but no release or disposal occurred.	Parcel "D": Bldg 63,& 64
3	Areas where storage or release of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.	Parcel "C": Bldg 68
4	Areas where storage or release of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.	Non-Applicable
5	Areas where storage or release of hazardous substances has occurred, and removal and remedial actions are underway, but all required remedial actions have not yet been taken.	Non-Applicable
6	Areas where storage or release of hazardous substances has occurred, but required response actions have not yet been implemented.	Non-Applicable
7	Areas that are unevaluated or require additional evaluation	Non-Applicable

Table 3. Parcels "A" and "B", and buildings for City of Des Moines:

1. A total of 25.33 acres in Parcel "A" (23.74 acres) and "B" (1.59 acres), is proposed to transfer to City of Des Moines, Iowa.

2. Buildings contained within parcels to be transferred to the City of Des Moines.

BLDG	Bldg type	Building Descriptions
84	Conc.Masonry	Storage/General Purpose
122	Brick	Warehouse/General Purpose
123	Brick	Warehouse/General Purpose
126	Brick	Warehouse/General Purpose
127	Brick	Warehouse/General Purpose
135	Brck Granary	Storage/General Purpose
137	Brick	Storage/General Purpose
138	Brick	Storage/General Purpose
139	Brick	Warehouse/General Purpose
308	Brick	Mass Hall/General Purpose
309	Brick	Mass Hall/General Purpose
UDA 1	Ground Site	Unristricted Disposal Area 1
UDA 2	Ground Site	Unristricted Disposal Area 2

3. DoD Environmental Condition Categories

Category	Definition	Parcel and Building
1	Areas where no storage, release, disposal of hazardous substances or petroleum products has occurred	Parcel"A": Bldg 122,127 135,137, & 308,
2	Areas where only storage (less than one year) of hazardous substances or petroleum products has occurred. Areas where only storage (one year or more) of hazardous substances has occurred, but no release or disposal occurred.	Parcel"A":Bldg123
3	Areas where storage or release of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.	Parcel"A":Bldg 126,309, and UDA2
4	Areas where storage or release of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.	Parcel "A":Bldg,138, 139, & UDA 1 Parcel "B": 84
5	Areas where storage or release of hazardous substances has occurred, and removal and remedial actions are underway, but all required remedial actions have not yet been taken.	Non-Applicable
6	Areas where storage or release of hazardous substances has occurred, but required response actions have not yet been implemented.	Non-Applicable
7	Areas that are unevaluated or require additional evaluation	Non-Applicable

4-A: HAZARDOUS SUBSTANCE STORAGE

Sht 1

Building	Quantity	Container Type\Size	Description	Comments	Quantity	Container Type\Size	Description	Comments
63	4	bags	disinfectant bars	disposed	1	bottle	air freshener	disposed
	3	box	Deodorant blocks	disposed	1	bottle	Daily cleanser	disposed
	2	bottle	Scouring powder	disposed	3		Bars soap	disposed
	1	4 oz	oil of olay	disposed	1	24 oz	Cream cole emulsion cleaner	disposed
	1	15 oz.	Shampoo	disposed	1	pint	Pine-Sol	disposed
	1	15 oz.	Conditioner	disposed	1	5 gallon	Paint	see note 1
	3	1.5 oz.	Shampoo	disposed	1	1 gallon	Paint	see note 1
64	1	14 oz.	Ajax cleaner	disposed	1	22 oz.	General purpose cleaner	disposed
	1	quart	Shiloh Cleaner	disposed	1	5 gallon	pail	disposed
	1	quart	Furniture Polish	disposed	1	quart	Laquer	see note 1
68	2	can	scouring powder	disposed	1	30 ml	Correction fluid	disposed
	1	32 oz.	Liquid detergent	disposed	2	1 gallon	Paint	see note 1
	1	container	soap	disposed	2	3 lb	no markings	disposed
	1	1 lb	no markings	see note 1	1	1 gallon	Trichloroethane	see note 1
	1	5 gallon	Enamel	see note 1	1	4 oz.	no markings	disposed
	1	5 gallon	NASSA Oil K79	see note 1	1	2 pint	no markings	disposed
	1	5 gallon	Steam System Treatment	see note 1	1	1 gallon	paint	see note 1
	8	2 pint	no markings	see note 1	1	5 pint	protexam, solvent	disposed
	1	8 oz.	Enamel	see note 1	1	1 quart	amonia	see note 1
	1	1 oz.	Acid for Total Alkalinity	see note 1	1	1 gallon	industrial finish	see note 1
	1	1 gallon	Wood Preservative	see note1	1	1pint	mineral spirits	see note 1
	1	1 gallon	"KERO", no other markings	see note 1	2	9 oz.	petroleum jelly	see note 1
	1	1 gallon	antifreeze	see note 1	1	4 ml.	no markings	see note 1
	1	quart	Paint	see note 1	1	1 quart	paint	see note 1
	2	4 oz	no markings	disposed	1	6 oz	no markings	disposed
70	1	55 gallon drum	Water treatment (boiler)	see note 1	1	2 oz. bottle	no markings	disposed
	1	55 gallon	no markings	see note 1	1	2 oz. bottle	"drop test solution"	disposed
	1	35 gallon	microbiocide	see note 1	1	pyrex flask	no markings	disposed
	3	3 oz. bottle	no markings	disposed	1	2 gallon	no markings	see note 1
	8	1 gallon	paint cans	empty	4	3 lb	material in coffee cans	disposed
	1	1 gallon	Paint	see note 1	1	11 oz.	Shaving Cream	disposed
	3	13 oz. aerosol	Paint	see note 1	1	5 gallon	no markings	see note 1
	1	quart	Exterior Masonry Coating	disposed	1	quart	oil	empty
	1	1/2 quart	Container	empty				
71	1	quart	Motor oil	empty	1	1 gallon	can, no markings	disposed
	2	aerosol	Lysol- air freshener	disposed	1	20 gallon	can, no markings	see note 1
73	1		Fire extinguisher	empty	1	quart	Motor oil	empty
	1	40 gallon	Liquid dish washing compound	see note 1	1	1 gallon	paint	empty
	2	20 gallon	Floor Finish	see note 1	1	25 lb. bag	Plaster	empty
	1	5 gallon	plastic, no markings	see note 1	1	1/2 gallon	Fixer and replenisher	full
	3	5 gallon	can, no markings	empty	1	8 oz. aerosol	insect repellent	disposed
	1	7.5 gallon	can, no markings	empty	1	80 lb. bag	Calcium Chloride Anhydrous	empty
	1	1 gallon	plastic, no markings	empty	1	55 gallon drum	Liquid, no markings	full

Note 1: OHM, the Army Site Remedial contractor, collected the containers/cans in a centrally located chemical sweep area. Container/cans were emptied, and the contents were dispensed into drums.

4-A: HAZARDOUS SUBSTANCE STORAGE

Sht 2

Building	Quantity	Container Type\Size	Description	Comments	Quantity	Container Type\Size	Description	Comments
55	2	13 oz.	Laquer	disposed	2	32 oz.	no markings	empty
	1	4 oz.	Disk Drive Head cleaning solutio	disposed	1	1 gallon	Window cleaner	empty
	1	2.5 gallon	Fuel can	see note 1	1	6 oz.	Shaving cream	disposed
	5	aerosol	Paint	disposed	1		Comet cleaner	disposed
	14	1 gallon	Paint	see note 1	1	1/2 gallon	no markings, white powder	disposed
	9	1 gallon	Petroleum Distillate	see note 1	1	1 liter	Fog fluid	disposed
	1	pint	no markings	disposed	2	14 oz.	Scouring Powder	see note 1
	5	quart	Protective coating/cleaner	disposed	1	2/3 oz.	nasal spray	disposed
	1	4 gallon, fiber	white powder	disposed	4	1 lb.	ink	disposed
56	1	1 gallon	no markings, liquid	disposed				
	1	25 lb. bag	Plaster	disposed				
58	1	bag	Disinfectant (Chlorine)	disposed	1	quart	Furniture polish	disposed
	2	16 oz.	Writing fluid	disposed	1	10 oz.	Liquid Starch	disposed
	1	5 gallon	Floor treatment	see note 1	1	12.5 oz.	Insect spray	see note 1
	3	4 oz.	Duplicator ink	disposed	1	aerosol	no markings	disposed
	1	8 oz. aerosol	Starch	disposed	1	6 oz. aerosol	Starch	disposed
59	7	12/CASE	Respirator Cartridges	disposed	1	1 gallon	Nourse oil	disposed
	4	can	no markings	disposed	1	can	Johnsons Paste wax	disposed
	2	cans	wax for hearing protection	disposed	2	1 gallon	Enamel	disposed
	3	4 oz.	Yeast	disposed	1	5 gallon	Dry cleaning solvent	see note 1
	1	glass bottle	no markings	disposed	1	5 gallon	Floor wax	disposed
	1	8 oz.	Bleach/cleaner	see note 1	3	quart	Furniture polish	disposed
	7	14 oz.	Scouring powder	disposed	2	aerosol	Laquer	disposed
	1	can	Kodak processing film	disposed	1	14 oz. aerosol	Paint	see note 1
	1	1 gallon	no markings	disposed	1	quart	Pine oil	disposed
	1	1 gallon	wood wax	disposed	2	pint	Metal Polish	see note 1
	1	can	Graphite Petrolatum	disposed	1	can	Duplicating ink	disposed
	2	canister	m11 mask canister	disposed	1	can	no markings	disposed
	6	aerosol	no markings	disposed	2	can	hand cleaner	disposed
	2	can	Penatrating oil	disposed	1	bottle	oven cleaner	disposed
	1	1 gallon	HVAC oil	see note 1	1		fire extinguisher	disposed
60		tube	skin cleaner	disposed	1	1 can	spray paint	see note 1
		1	used smoke grenade	see note 1	1	1/2 can	primer	see note 1
	1	1 pint	no markings	disposed	5	1 gallon	paint	see note 1
	2	1 pint	no markings	disposed	1	1 gallon	paint	empty
	1	1 can	break free	disposed	1	1 bottle	floor cleaner	empty

Note 1: OHM, the Army Site Remedial contractor, collected the containers/cans in a centrally located chemical sweep area. Container/cans were emptied, and the contents were dispensed into drums.

4-A: HAZARDOUS SUBSTANCE STORAGE

Sht 3

Building	Quantity	Container Type\Size	Description	Comments	Quantity	Container Type\Size	Description	Comments
61	1	21 oz.	"Dutch" Cleanser	disposed	1	4 oz	no markings	disposed
	1	4 oz. aerosol	Deodorant	disposed	1	can	scouring powder	disposed
	1	quart	Furniture polish	disposed	1		spent smoke flare	disposed
	1	1 gallon	Window washer fluid	see note 1	1	10 oz.	no markings	see note 1
62	1	bottle	white out	disposed	1	4 oz.	cream	disposed
	1	1 gallon	ink	disposed	8	packets	Copyflex Developer	see note 1
	2	bottle	bleach/cleanser	disposed	1	1 gallon	soap	disposed
	1	bottle	starting fluid	disposed	2	bottles	ink	disposed
	1	5 gallon	Paint	see note 1	1	1/2 gallon	no marking	disposed
	2	100 lb. fiber	floor sweeping	disposed	1	1 gallon	Bowl Cleaner	disposed
	1	1 oz.	correction fluid	disposed	1	1 gallon	wax	disposed
	1	2 oz.	stamp pad ink	disposed	1	4 oz	ink	disposed
	1		battery	see note 1				
81	2	8 oz. cans	adhesive	disposed	5	8 oz.	Pantone color wash	disposed
	6	1 gallon	Enamel	see note 1	1	pint	Lubricant	disposed
	2	quart	Polyurethane Coating	see note 1	1	1 gallon	Paint remover	see note 1
	2	1 gallon	Bituminous Solvent Coating	see note 1	1	15 oz. aerosol	Dry Lubricant	see note 1
	3	1 gallon	Everseal Securgard Enamel	see note 1	1	1 lb	Petrolatum Lubricant	see note 1
	2	1 gallon	Zoom Blue Latex	see note 1	1	1 lb.	Antiseize compound	disposed
	1	10 5 oz.	Aerosol	disposed	1	1 gallon	Bleach	see note 1
	30	5 gallon	Chemical Identification Simulants	see note 1	1	pint	Mineral oil	see note 1
	2	5 gallon	no markings	see note 1	1	22 oz	Windex	see note 1
	1	5 gallon	Decontaminating agent	see note 1	1	1/2 gallon	Vinyl Adhesive	see note 1
	3	3 lb can	no markings	disposed	1	1 gallon bottle	no markings	disposed
	1	1 gallon	no markings	disposed	15	32 oz	Electrostatic dispersant, liquid	see note 1
	1	quart	Enamel	see note 1	2	32 oz	Petroleum Distillate	see note 1
	1	2 oz. bottle	Lindane insecticide	see note 1	1	55 gallon	Fiber drum, sweeping compound	see note 1
	1	25 lb. bag	NAT Stock # 6810-00-585-2017	see note 1	3	quart	Offset toner	disposed
	1	40 lb. bag	NAT Stock # 6810-00-585-2017	see note 1	3	quart	Plate toner	disposed
	28	16 oz.	Ink	disposed	1	10 lb. bag	Floor patch	see note 1
	3	14 oz	Cleanser	disposed				
86	1	100 lb	sweeping compound	see note 1	1		oil funnel	disposed
	1	55 gallon	Antifreeze	see note 1	1	quart	Oil	see note 1
	1	1 gallon	Fuel can	see note 1	1	12 volt	Car battery	see note 1
	1	5 gallon	used oil/ oil drain pan	see note 1	2		Brake cylinders	see note 1
	1	2 1/2 lb.	Fire extinguisher	disposed	2		Freon canisters	empty

Note 1: OHM, the Army Site Remedial contractor, collected the containers/cans in a centrally located chemical sweep area. Container/cans were emptied, and the contents were dispensed into drums.

4-A: HAZARDOUS SUBSTANCE STORAGE

Sht 4

Building	Quantity	Container Type\Size	Description	Comments	Quantity	Container Type\Size	Description	Comments
86	1	8 oz	Hand cleaner	disposed	1	8 oz	Oil	see note 1
	3	pumps	Air conditioner pumps	disposed	1	16 oz	Snowmobile oil	disposed
	1	pump	auto oil pump	disposed	1	3 lb	Laundry soap in coffee can	see note 1
	3	1 gallon	antifreeze	disposed	1	1 gallon	Washer fluid	disposed
	1	30 gallon	Fuel can	see note 1	2	16 oz	Speed-a-way Fluid	disposed
	2	55 gallon	no markings	see note 1	1	quart	Universal cement	see note 1
	1	2 1/2 gallon	Oil drip pan	see note 1	1	1 oz.	mercurochrome	see note 1
	1	1 gallon	Bituminous Coating solvent	see note 1	1	quart	Furniture refinisher	disposed
	2	10 oz.	Starting Fluid	see note 1	1	1/4 oz	graphite lubricant	see note 1
	2	1 gallon	auto washer	disposed	1	12 oz	Gas line antifreeze	see note 1
84	11	16 oz. aerosol	Deicer-DeFroster	disposed	1	1 gallon	Rust remover	see note 1
	4	13 oz.	Paint	see note 1	3	1 gallon	Enamel reducer	disposed
	7	11 oz.	Thrust stanng fluid	see note 1	1	roll	rubber seal maker	disposed
	1	13 oz tube	Butyl rubber	disposed	4	1 gallon	paint	see note 1
	1	10 oz.	Windo-Weld (urethane)	disposed	3	5 gal	Auto and Artillery grease	see note 1
	1	1/4 pint	Enamel	see note 1	1	pint	Enamel	see note 1
	1	1/2 pint	Enamel	see note 1	3	quart	no markings	see note 1
	1	16 oz. aerosol	Paint	see note 1	2	1/2 gallon	Enamel	see note 1
	2	pint	Lucite Acrylic Laquer	see note 1	1	1/2 gallon	Laquer	see note 1
	1	32 oz.	Hydrualic Fluid m-1	see note 1	1	1 gallon	body filler	disposed
	1	roll	Plumbers plugs	disposed	1	1 gallon	Laquer rubbing compound	see note 1
	14	quart	Enamel	see note 1	1	1 gallon	Epoxy Polymide Coating	see note 1
	7	quart	laquer	see note 1	5	1 gallon	Primer Coating	see note 1
	1	1 gallon	Fuel conditioner	see note 1	5	1 gallon	Bituminous Coating solvent	see note 1
	12	1 gallon	no markings	see note 1	1	1 gallon	Enamel	see note 1
	1	1 gallon	Super penetrating oil	see note 1	8	16 oz	Preventive Corrosive Compound	disposed
	1	1 gallon	Surface sealer	see note 1	5	16 oz	Lubricating Compound Silicone	disposed
	1	1 gallon	Paint, Florescent	see note 1	3	5 gallon	Surface cleaning compound	disposed
	1	5 lb	Valvoline Bearing Grease	see note 1	3	5 gallon	Enamel	see note 1
	1	1 gallon	Dust mop cleaner	disposed	1	5 gallon	Carbon removing compound	see note 1
	1	quart	sprayer	disposed	1	6 gallon	Solvent Superiode Emulsion Degreas	see note 1
	1	1 gallon	Thinner Dope and Laquer	disposed	1	3 gallon	compressor tank w/ oil	see note 1
122	12	5 gallon	Beverage containers	see note 1	10	quart	oil	see note 1
	1	5 gallon	Cleaner/Sanitizer	see note 1	1	1 gallon	Paint	see note 1
	2	5 lb.	Grease	see note 1	4	quart	Enamel	see note 1

Note 1: OHM, the Army Site Remedial contractor, collected the containers/cans in a centrally located chemical sweep area. Containers/cans were emptied, and the contents were dispensed into drums

4-A: HAZARDOUS SUBSTANCE STORAGE

Sht 5

Building	Quantity	Container Type\Size	Description	Comments	Quantity	Container Type\Size	Description	Comments
123	4	1 lb	Mimeograph Paste ink	see note 1	4	1 gallon	Primer(wash) Pretreatment for Metals	see note 1
	1	1 gallon	Paint	see note 1	2	12 oz. aerosol	Enamel	see note 1
	1	5 gallon	Floor Finish	see note 1	1	4 oz	Break Free CLP Lubricant	disposed
	1	11 oz.	Chewing gum remover	disposed	1	quart	no markings	disposed
	9	13 oz. aerosol	lacquer	see note 1	1	15 oz. aerosol	Metal Polish	disposed
	8	2 oz.	repellent lotion	disposed	2	4 oz	Soap bars	disposed
	1	1 lb	Waterless hand cleaner	disposed	1	14 oz.	Scowering Powder	disposed
	1	1/2 oz.	simulant solution	disposed	2	packets	Food Disinfectant	disposed
	31	3 oz.	Chemical agent Refill Kits	disposed	1	16 oz.	Silicone Lubricant	disposed
	3	quart	Disinfectant Detergent	disposed	1	5 gallon	Joint compound	disposed
	2		Permanone Tick Repellent	disposed	1	13 oz. aerosol	Lacquer	see note 1
	1	9 oz.	Vanish bowl cleaner	disposed	1	4 gallon	no markings	see note 1
	1	13 oz. aerosol	Enamel	see note 1	1	2 Liter	Bathroom cleaner	disposed
	4	quart	Acid pretreatment	disposed				
126	1	quart	motor oil	see note 1	1	55 gallon	no markings	see note 1
	1	3 lb.	no markings	disposed	1	3 gallon	oil	see note 1
127	1	1 gallon	Dilute Sulfuric Acid	see note 1	5	1 gallon	no markings	see note 1
	1	6 volt	Tractor battery	see note 1	7	1 gallon	black sealant	see note 1
	1	12 volt	car battery	see note 1	27	1 gallon	Paints and Enamels	see note 1
	1	1 gallon	Turpentine	see note 1	5	aerosol	Paint	see note 1
	3	1 gallon	Diazinon insecticide	see note 1	4	6 oz	Rust inhibitor	disposed
	1	quart	PL-S Preservative	see note 1	1	6 oz	Drain Opener	disposed
	3		Magnesium Batteries	see note 1	1	pint	no markings	disposed
	1	55 gallon	used oil	see note 1	1	12 oz	Grease	disposed
	22	5 gallon	oils	see note 1	1	quart	outboard motor oil	see note 1
	1	3 gallon	oil container	see note 1	1	quart	Spackling compound	see note 1
	1	2 1/2 gallon	no markings	see note 1	1	1/2 pint	Varnish/Stain	disposed
	1	55 gallon	Flammable Liquid	see note 1	5	quart	Motor oil	disposed
	1	55 gallon	Cleaning solvent	see note 1	1	quart	White Glue	disposed
	1	55 gallon	Anti-Freeze Ethylene Glycol	see note 1	1	pint	Johnsons Car wax	disposed
	1	1 gallon	Poison	see note 1	1	4 oz	PL-S Lubricant	see note 1
	1	quart	Drain Cleaner	see note 1	1	8 oz.	bottle, no markings	disposed
	2	5 lb	Grease	see note 1	24	quart	Paint/enamel/stain	see note 1

Note 1: OHM, the Army Site Remedial contractor, collected the containers/cans in a centrally located chemical sweep area. Container/cans were emptied, and the contents were dispensed into drums.

4-A: HAZARDOUS SUBSTANCE STORAGE

Sht 6

Building	Quantity	Container Type\Size	Description	Comments	Quantity	Container Type\Size	Description	Comments
135	150	quart	Adhesives	disposed	1	3 oz.	no markings	disposed
	5	5 gallon	no markings	see note 1	1	6 oz.	no markings	disposed
	8	1 oz	medicine containers	disposed	1	1 gallon	Anti-Freeze	see note 1
	2	1/2 oz.	Paint	see note 1	1	quart	Enamel	see note 1
	2	quart	Tame Iodide	see note 1	1	12 oz. aerosol	no markings	disposed
	1	3 oz.	Chloride solution	see note 1	1	17 1/2 gallon	"Drinking Water"	disposed
137	44	1 gallon	Microfilm Developer	see note 1	1	2 5 lb.	Fire Extinguisher	disposed
	27	1 gallon	Microfilm Developer Replenisher	see note 1	1	13 oz. aerosol	Paint	disposed
	16	1 gallon	Microfilm Fixer	see note 1	1	5 lb.	grease	see note 1
	1	1 gallon	antifreeze	see note 1	1	5 gallon	Motor oil	see note 1
	1	10 lb.	Fire Extinguisher	disposed	1	5 gallon	no markings	see note 1
138	5	quart	Oil	see note 1	1	15 lb.	Gear lubricant	see note 1
	1	quart	oil filter	disposed	16	17.5 gallon	"Drinking Water" barrels	empty
	4	5 gal	no markings	see note 1	2	55 gallon	Dry Cleaning Solvent	see note 1
	2	1 gallon	Hydraulic oil	see note 1	1	55 gallon	Fog oil	see note 1
	5	55 gallon	OE-10 oil	see note 1	1	55 gallon	Paint thinner	see note 1
	2	55 gallon	Hydraulic oil	see note 1	1	20 gallon	no markings	see note 1
	5	55 gallon	no markings	see note 1	4	5 gallon	Marsh adhesive	disposed
	1	55 gallon	antifreeze	see note 1	3	5 gallon	Linseed oil	see note 1
	87		fire extinguishers	disposed	1	5 gallon	GS-702 Adhesive	disposed
	1		Starter assembly drum	disposed	1	5 gallon	Paint	see note 1
	5	5 gallon	GO- 90 oil	see note 1	1	5 gallon	Linoleum Paste	disposed
	3	5 gallon	OE-30 oil	see note 1	1	5 gallon	Careyclad Coating	see note 1
	5	5 gallon	OHC Hydraulic oil	see note 1	1	5 gallon	grease dispenser	see note 1
	5	5 gallon	OE-10 oil	see note 1	4	1 gallon	Hydrcote Vinyl Masonry Coating	see note 1
	3	5 gallon	2075H Hydraulic oil	see note 1				
309	1	55 gallon	antifreeze Ethylene Glycol	see note 1	2	quart	Motor oil	see note 1
	2	bottle	Propane	disposed	1	quart	Auto Transmission Fluid	see note 1
	6	5 gallon	Fuel Cans	see note 1	2	55 gallon	no markings	disposed
	4	4 gallon	Fire buckets	disposed	1	35 gallon	oil	disposed
	1	8 oz.	Elmers Glue	see note 1	2		Refrigerant Freon	empty
	2	1 gallon	Fuel can	see note 1	5	55 gallon	Motor oil	see note 1
	1	1 gallon	Antifreeze	see note 1	1	55 gallon	Motor oil, overpacked	see note 1
	1	35 gallon	Sanfax San-O-Nox Degreaser	see note 1	1	quart	Brush cleaner	disposed
	1	pint	no markings	see note 1	1	70 lb.	Fiber Patch	disposed
	1	32 oz.	All purpose cleaner	disposed	3	80 lb. bags	Calcium Chloride pellets	see note 1
	1	4 oz.	Liquid nail adhesive	disposed	3	Cylinders	Propane	empty
	1	16 oz.	no markings	disposed	1	25 lb. bag	Patching compound	see note 1
	1	2 oz.	insect repellent	disposed				
308	1	1 gallon	Glass Cleaner	disposed	1	30 gallon	water treatment	see note 1
	1	12 oz. aerosol	insecticide	see note 1	1	100 lb. bag	Portland cement	disposed

Note 1: OHM, the Army Site Remedial contractor, collected the containers/cans in a centrally located chemical sweep area. Container/cans were emptied, and the contents were dispensed into drums.

Table 4-B. Hazardous Substance Release

(The following are data from the CERFA Report dated April 1994. Remediation Notes marked by (*) reflect the current remedial status.)

FAC NO	STATUS	LOC_CMTS	TYPE	CONTAM	QTY	DTE_RELEAS	REFERENCE	REMEDIATION, OR MITIGATION (* : Updated/See Notes below)
55	Y	Non-Source Specific Release	Soil	Lead, pesticides, SVOCs			*16 *27,*28, *29,*30	*See Note 1 below
58	Y	Small Arms Firing Range	Surface	Metals			4, *16 *27,*28, *29,*30	*Remediated (See Note 2 below)
68	Y	Non-Source Specific Release	Soil	Metals, pesticides			*16 *27,*28, *29,*30	*See Note 1 below
81	Y	Small Arms Firing Range	Surface	Metals			4, *16 *27,*28, *29,*30	*Remediated (See Note 2 below)
126	Y	Maintenance Shop Release	Soil	Metals, PCB			*16 *27,*28, *29,*30	*See Note 1 below
138	Y	Pesticide Mixing Operations	Soil	Metals, pesticides		1950-1959	*16 *27,*28, *29,*30	*Remediated (See Note 2 below)
307	Y	Reported PCB Transformer-Oil Spill	Soil/Groundwater	Pesticides, SVOCs			*16 *27,*28, *29,*30	*See Note 1 below
UDA1	Y		Sed/Soil/SW	Lead, pesticides			4, *16 *27,*28, *29,*30	*See Note 1 below
UDA2	Y		Soil	Lead, pesticides			4, 16	*See Note 1 below
PEST1	Y	Pesticide Contamination Area	Soil/Groundwater	Metals, PCE, pesticides, VOCs			*16 *27,*28, *29,*30	*See Note 1 below
STREM	Y	Intermittent Streams	Sediment	Pesticides			*16 *27,*28, *29,*30	*See Note 1 below

*Note 1: Results of the Risk Assessment in the Final EI/RA/AA reports (August 1995) concludes contaminant concentrations are within an acceptable range requiring no further action.

*Note 2: Soil remediated to levels established by Omaha District's Action Memorandum dated Jul 1995.

Legend: P - Possible Y - Yes(Occurred)

Table 4-C: PETROLEUM STORAGE

(The following are data from the CERFA Report dated April 1994. Remediation Notes marked by (*) reflect the current remedial status.)

FAC NO	STATUS	LOC_CMTS	TYPE	CONTAM	QTY	DTE_START	DTE_INACT	REFERENCE	REMEDIATION, OR MITIGATION (* : Updated/See Notes below)
83	Y	Tank 83	UST	Fuel Oil	500 gal	Pre-1950		2, 4, *16 *27,*28, *29,*30	*Inoperative (See Note 2 below)
86	Y	Tank 86	UST	Fuel Oil	500 gal	1973		2, 4, *16 *27,*28, *29,*30	*Inoperative, (See Note 2 below)
122	Y	Tank 122	UST	Gasoline	10000 gal	Pre-1950		2, 4, *16 *27,*28, *29,*30	Non-presence verified through EI Magnetrometer & GPR Survey
127	Y	Tank 127.1	UST	Gasoline/Water	10000 gal	Pre-1950		2, 4, *16 *27,*28, *29,*30	*Inoperative (See Note 2 below)
127	Y	Tank 127.2	UST	Fuel Oil/Water	1500 gal	Pre-1950		2, 4, *16 *27,*28, *29,*30	*Inoperative(See Note 2 below)
139	Y	Tank 139.1	UST	Diesel Fuel	1500 gal	Pre-1950		2, 4, *16 *27,*28, *29,*30	Removed 9/90, closed clean
139	Y	Tank 139.2	UST	Gasoline	1500 gal	Pre-1950		2, 4, *16 *27,*28, *29,*30	Removed 9/90, closed clean
83	P	Former Vehicle Garage	Drums	Various POL Products		~1940		4	*No longer in operation (See Note 1 below)
84	Y	Vehicle Maintenance Storage Bldg	Drums	Various POL Products			~1992	4, 17, *16 *27,*28, *29,*30	*Removed(See Note 2 below)
86	P	Former Motor Pool	Drums	Various POL Products	330 gal			2, 4, 17, *16 *27,*28, *29,*30	*Removed (See Note 2 below)
119	Y	Former Oil Station	Drums (P)	Various POL Products				2, 4	*removed (See Note 2 below)
123	P	Former Machine Shop	Drums (P)	Various POL Products				2, 4	*No longer in operation(See Note 1 below)
126	P	Former Maintenance Shop	Drums (P)	Various POL Products				2, 4	*No longer in operation(See Note 1 below)
133	Y	Gas Regulator House	Drums	Various POL Products	275 gal		~1992	4, *16 *27,*28, *29,*30	*Removed (See Note 2 below)

*Note 1: The Site Investigation conducted in 1995 found no evidence of the materials stored at the site.
*Note 2: Tank removals were conducted by the Army Corps of Engineers (Omaha District) in 1994/95.

Legend: P - Possible Y - Yes(Occurred)

Table 4-C: PETROLEUM STORAGE (Continued)

(The following are data from the CERFA Report dated April 1994. Remediation Notes marked by (*) reflect the current remedial status.)

FAC NO	STATUS	LOC_CMTS	TYPE	CONTAM	QTY	DTE_START	DTE_INACT	REFERENCE	REMEDIATION, OR MITIGATION (* : Updated / See notes below)
138	Y	CCC Maintenance Storage	Drums	Various POL Products			~1992	4	*Removed (See Note 2 below)
139	Y	830th Hospital AR Storage	Cans	Various POL Products	60 gal	~1991		17	*Removed (See Note 2 below)
139	Y	Tank 139.3	AGT	POL Products (P)	~250 gal		1975	17	*No longer in operation(See Note 1 below)
139	Y	Tank 139.4	AGT	POL Products (P)	~250 gal		1975	17	*No longer in operation(See Note 1 below)
139	Y	Tank 139.5	AGT	POL Products (P)	~1000 gal		1975	17	*Removed(See Note 2 below)
139	Y	Tank 139.6	AGT	POL Products (P)	~500 gal		1975	17	*No longer in operation(See Note 1 below)
139	Y	Tank 139.7	AGT	POL Products (P)	~500 gal		1975	17	*No longer in operation(See Note 1 below)
309	Y	Facility Maintenance Storage Building	Drums	Various POL Products	350 gal			4, 17, *16 *27,*28, *29,*30	*Removed (See Note 2 below)

*Note 1: The Site Investigation conducted in 1995 found no evidence of the materials stored at the site.
*Note 2: Tank removals were conducted by the Army Corps of Engineers (Omaha District) in 1994/95.

Legend: P - Possible Y - Yes(Occurred)

TABLE 4-D: PETROLEUM RELEASE

(The following are data from the CERFA Report dated April 1994. Remediation Notes marked by (*) reflect the current remedial status.)

FAC NO	STATUS	LOC_CMTS	TYPE	CONTAM	QTY	DTE_RELEAS	REFERENCE	REMEDIATION, OR MITIGATION (* : Updated below)
117	Y	Waste Oil Dump Site	Soil	Waste Oil			4	*See Note 1 below
117	Y	Tank 117 Releases	Soil	TPH		8/92	4, 7, *16 *27,*28, *29,*30	*See Note 1 below
126	Y	Maintenance Shop Releases	Soil	TPH			*16 *27,*28, *29,*30	*See Note 1 below
307	Y	PCB Transformer-Oil Spill	Groundwater/Soil	Oil			4, *16 *27,*28, *29,*30	*See Note 1 below
UDA2	Y		Soil	TPH			2, 4, *16 *27,*28, *29,*30	*See Note 1 and 2 below
PEST1	Y	Pesticide Contamination Area	Groundwater	TPH			2, 4, *16 *27,*28, *29,*30	*See Note 1 and 2 below

Legend: P - Possible Y - Yes(Occurred)

*Note 1: Results of the Risk Assessment in the Final EI/RA/AA reports (August 1995) conclude contaminant concentrations are within an acceptable range requiring no further action.
*Note 2: Soil remediated to levels established by the Omaha District's Action Memorandum dated July 1995.

TABLE 4-E: PCBs STORAGE/RELEASE

(The following are data from the CERFA Report dated April 1994. Remediation Notes marked by (*) reflect the current remedial status.)

FAC NO	STATUS	LOC_CMTS	TYPE	CONTAM	QTY	DTE_START	DTE_INACT	REFERENCE	REMEDIATION, OR MITIGATION (* : Updated in 1995)
138	Y	Transformer storage	Transformers	PCBs	140		1982	2, 4, *16 *27,*28, *29,*30	*See Note 1 below
309	Y	Transformer storage	Transformers	PCBs	9			2, 4, *16, 17,*27, *28,*29, *30	*See Note 1 below
309	Y	PCB waste storage	Drums	PCBs	110 gal	1991		*16, 17	*See Note 1 below

Legend: P - Possible Y - Yes(Occurred)

*Note 1: Results of the Risk Assessment in the Final EI/RA/AA reports (August 1995) conclude contaminant concentrations are within an acceptable range requiring no further action.

Table 5
Underground Storage Tank Inventory (weston, 1989)
for Fort Des Moines, Iowa

(The following data was copied from Table 3-10, page 3-34, Volume I, EI/RA/AA Report dated August 1995. Reference is made to support the decision for Section 6.4 of this report.)

Tank I.D.	Location	Designated Service/Contents	Estimated Tank Capacity (gal)	Comments[1]
1	N. Bldg. 127	Gasoline/water	10,000	Removed 1995
2	N. Bldg. 127	Fuel oil/water	1,500	Removed 1995
3	Reported north of Bldg. 122 and 123	Gasoline	10,000	Nonpresence verified
4	S.W. Bldg. 117	Waste oil	500	Removed (August 1992)
5	E. Bldg. 83	Fuel oil	500	Removed 1995
6	E. Bldg. 86	Fuel oil	500	Removed 1995
7	S. Bldg. 139	Diesel fuel	1,500	Removed (September 1990)
8	S. Bldg. 139	Gasoline	1,500	Removed (September 1990)

[1] All tanks are assumed to have been installed prior to 1950, except for Tank 6, which was installed in 1973.

Table 6

Radon Canister Results for Fort Des Moines, Iowa

(The following data was copied from Table 3-10, page 3-34, Volume I, EI/RA/AA Report dated August 1995. Reference is made to support the decision for Section 7.1 of this report.)

Building Number	Radon Concentration (pCi/L)	Building Number	Radon Concentration (pCi/L)
55	less than 0.4	72	5.4
55	less than 0.4	72[1]	7.3
56	less than 0.4	72[1]	7.8
56	less than 0.4	73	less than 0.4
58	0.4	75	1.1
58	0.4	81	1.3
58	0.6	83	0.4
59	less than 0.4	84	less than 0.4
59	1.6	86	less than 0.4
60	0.7	117	0.7
60	less than 0.4	117	0.7
61	less than 0.4	122	0.7
61	1.0	123	2.3
62	1.7	126	0.9
62	0.5	127	0.5
63	1.0	137	less than 0.4
63	5.2	137	0.6
63[1]	5.4	137	less than 0.4
64	3.6	139	0.4
64	0.4	139	less than 0.4
68	0.8	139	0.5
69	less than 0.4	308	1.1
70	0.5	309	0.6
71	less than 0.4		

[1] = Confirmatory samples collected from 10/92 to 12/92.

Table 7

Asbestos Survey Results for Fort Des Moines, Iowa

(The following data was copied from Table 3-11, page 3-37, 38, and 39, Volume I, EI/RA/AA Report dated August 1995. References are made to support the decision for Section 7.2 of this report.)

Building Number	Field Sample Number	Field Station Location	Field Station Description	Site Type	TSI	Surfacing	Misc/Type	Condition	Asbestos Type/ Content	Hazard Potential'
55	55-003-B	B-boiler room	Boiler lagging	BLDG	X	--	--	Fair	Chrysotile 70-75%	3
55	55-003D-B	B-boiler room	Boiler lagging	BLDG	X	--	--	Fair	Chrysotile 75-00%	3
55	55-004-B	2-north end	Sheet vinyl	LINL	--	--	Linoleum	Fair	ND	N/A
55	55-044-B	B-room 4	Plaster	BLDG	--	X	--	Fair	ND	N/A
55	55-045-B	B-room 4	Plaster	BLDG	--	X	--	Fair	ND	N/A
56	56-005-B	B-hallway exit	Pipe lagging	BLDG	X	--	--	Poor	Chrysotile 30-35%	1
56	56-006-B	2-room 222	Green floor tile	VFT	--	--	VAT	Fair	Chrysotile 1-5%	4
50	50-007-B	B-center hallway	Pipe lagging	BLDG	X	--	--	Fair	Chrysotile - Trace	4
50	50-008-B	B-SW corner restroom	Transite board	WLBD	--	--	Transite	Good	Chrysotile 35-40%	7
59	59-009-B	2-SW corner	Dark brown floor tile	VFT	--	--	VAT	Fair	Chrysotile 15-20%	3
59	59-010-B	2-SW corner	Dark brown floor tile mastic	VFT	--	--	VFTM	Good	Chrysotile - Trace	7
62	62-011-B	B-south end	Elbow insulation	BLDG	X	--	--	Fair	Chrysotile 65-70% Amosite 1-5%	2
62	62-012-B	1-north end	Sheet vinyl	LINL	--	--	Linoleum	Fair	ND	N/A
63	63-014-B	B-boiler room	Breeching insulation	BLDG	X	--	--	Fair	Chrysotile 5-10%	2
63	63-015-B	B-boiler room	Elbow insulation	BLDG	X	--	--	Good	Chrysotile 5-10%	6
63	63-016-B	B-area 7	Tank insulation	BLDG	X	--	--	Poor	Chrysotile 5-10%	1
63	63-017-B	B-area 2	Elbow insulation	BLDG	X	--	--	Good	Chrysotile 5-10%	5
63	63-018-B	B-SE area 12	Sheet vinyl	LINL	--	--	Linoleum	Good	Chrysotile 30-35%	6
63	63-019-B	1-room 115	Ceiling tile	CTIL	--	--	Ceiling tile	Good	ND	N/A
60	60-020-B	1-NE corner	Floor tile	VFT	--	--	VAT	Fair	Chrysotile 1-5%	6
60	60-021-B	1-boiler room east	Pipe lagging	BLDG	X	--	--	Good	Chrysotile 75-00%	5

Table 7 (Continued)
Asbestos Survey Results
Fort Des Moines, Iowa

Building Number	Field Sample Number	Field Station Location	Field Station Description	Site Type	TSI	Surfacing	Misc/Type	Condition	Asbestos Type/ Content	Hazard Potential[1]
68	68-022-B	1-boiler room east	Steam header	BLDG	X	--	--	Fair	Chrysotile 35-40%	2
69	69-024-B	1-east floor	Linoleum	LINL	--	--	Linoleum	Fair	ND	N/A
70	70-023-B	1-center	Ceiling tile	CTIL	--	--	Ceiling tile	Fair	ND	N/A
70	70-029-B	1-boiler room east	Hot water tank	BLDG	X	--	--	Fair	Chrysotile 25-30% Amosite 30-35%	2
70	70-030-B	1-boiler room east	Boiler lagging	BLDG	X	--	--	Fair	Chrysotile 1-5% Amosite 35-40%	2
70	70-031-B	1-boiler room east	Transite ceiling	WLBD	--	--	Transite	Good	Chrysotile 40-45%	6
72	72-013-B	1-east side	Sheet vinyl	LINL	--	--	Linoleum	Good	ND	N/A
73	73-025-B	1-SE corner	Elbow insulation	BLDG	X	--	--	Fair	Chrysotile 55-60% Amosite 1-5% Crocidolite 1-5%	2
73	73-026-B	1-SE corner	Pipe lagging	BLDG	X	--	--	Fair	Chrysotile 1-5%	2
75	75-027-B	1-south end	Sheet vinyl	BLDG	--	--	Linoleum	Fair	ND	N/A
83	83-035-B	1-south end showers	Pipe lagging	BLDG	X	--	--	Poor	ND	N/A
83	83-035D-B	1-south end showers	Pipe lagging	BLDG	X	--	--	Poor	ND	N/A
83	83-036-B	1-south end showers	Pipe elbow insulation	BLDG	X	--	--	Poor	Chrysotile 30-35% Amosite 1-5%	1
86	86-032-B	1-boiler room SE	Boiler lagging	BLDG	X	--	--	Fair	Chrysotile 60-65%	2
122	122-040-B	1-SE open area	Pipe lagging	BLDG	X	--	--	Poor	Chrysotile 45-50%	1
123	123-033-B	1-N.end near entrance	Floor tile	VFT	--	--	VAT	Good	Chrysotile 1-5%	6
123	123-034-B	1-N.end near entrance	Floor tile mastic	VFT	--	--	VFTM	Good	ND	N/A
126	126-041-B	1-boiler room NW	Boiler lagging	BLDG	--	--	--	Fair	Chrysotile 50-55%	3
126	126-042-B	1-store room NE	Sheet vinyl	LINL	--	--	Linoleum	Fair	ND	N/A
127	127-043-B	1-storage room SE	Sheet vinyl	LINL	--	--	Linoleum	Fair	ND	N/A

Table 7 (Continued)
Asbestos Survey Results
Fort Des Moines, Iowa

Building Number	Field Sample Number	Field Station Location	Field Station Description	Site Type	TSI	Surfacing	Misc/Type	Condition	Asbestos Type/ Content	Hazard Potential[1]
127	127-043D-B	1-storage room SE	Sheet vinyl	LINL	--	--	Linoleum	Fair	ND	N/A
135	135-001-B	1- east end	Attic insulation	WINS	--	--	A. Insulation	Fair	ND	N/A
135	135-002-B	1-elevator shaft	Transite board	WLBD	--	--	Transite	Good	Chrysotile 35-40%	6
137	137-037-B	1-boiler room west	Pipe elbow insulation	BLDG	X	--	--	Poor	Chrysotile 55-60%	1
137	137-037D-B	1-boiler room west	Pipe elbow insulation	BLDG	X	--	--	Poor	Chrysotile 50-55%	1
139	139-028-B	1-east end	Pipe lagging	BLDG	X	--	--	Poor	Chrysotile 60-65%	1
309	309-038-B	1-boiler room NW	Hot water tank	BLDG	X	--	--	Poor	Chrysotile 45-50%	1
309	309-039-B	1-boiler room NW	Boiler lagging	BLDG	X	--	--	Poor	Chrysotile 35-40%	1

NOTES:

[1] = Hazard Potential as defined in "Hazard Assessment and Response Action Evaluation".
- 1 - Poor Condition.
- 2-4 - Fair Condition (high disturbance potential, medium, and low).
- 5-7 - Good Condition (high disturbance potential, medium, and low).

A. Insulation = Attic insulation.
BLDG = Building.
CTIL = Ceiling tile.
LINL = Linoleum
N/A = Not applicable.
ND = None detected.
TSI = Thermal system insulation.
VAT = Vinyl asbestos tile
VFT = Vinyl floor tile.
VFTM = Vinyl floor tile mastic.
WLBD = Wallboard.
WINS = Wall insulation.

Appendix A:

Environmental Restrictions

1. The Army and its representatives shall, for all time, have access to the property for the purpose of installing and/or removing groundwater monitoring wells, and to perform continued monitoring of groundwater conditions, allowing chemical and/or physical testing of wells to evaluate water quality and/or aquifer characteristics. The property owner shall allow ingress and egress of all equipment necessary to accomplish the above.

2. The Army shall have access to the property in any case in which a response action or corrective action is found by the Army to be necessary after date of property transfer, or such access is necessary to carry out a response action or corrective action on adjoining property.

3. Environmental investigations and remedial and oversight activities will not be disrupted at any time. Such conditions will include, but are not limited to:

a. Provide for continued access for DoD and regulatory agencies to monitor the effectiveness of cleanup, perform five-year reviews, and/or take additional remedial or removal actions.

b. Ensure that the proposed use will not include activities that could cause a condition of further pollution or pose a new threat to the public health or environmental or disrupt any remedial activities, past, present, or future, such as the following:

(1) Surface application of groundwater that could impact the migration of contaminated groundwater and/or impact other environmental media;

(2) Subsurface drilling or use of groundwater unless DoD determines that there will be no adverse impacts on the cleanup process; or,

(3) No construction that would interfere with, negatively impact, or restrict access for cleanup work.

4. Twenty seven of 31 buildings associated with the property are considered as historic structures. The buildings are listed on the National Register of Historic Places. Their status on the register creates owner obligations. Therefore,

deed restrictions placed on the buildings include, but are not limited to, restrictions on building renovation, repairing, demolishing, or otherwise altering the structures except in accordance with applicable federal, state, and local law and regulation.

Appendix B: Reference List for Fort Des Moines

(The following are data from the CERFA Report dated April 1994. Highlighted Documents marked by (*) reflect the current remedial work and site condition.)

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Document	Date	Source
1. Potential Hazardous Waste Site Preliminary Assessment, U.S. Environmental Protection Agency, Region V	December 10, 1984	USEPA
2. Archives Search Report of Fort Des Moines, Polk County, Iowa, Report No. A024, Environmental Science and Engineering, Inc.	May 1985	USAEC
3. Enhanced Preliminary Assessment Report Fort Des Moines, Des Moines, Iowa	December 1989	USAEC
4. Preliminary Assessment, Fort Des Moines, U.S. Environmental Protection Agency Region VII	December 10, 1984	USEPA Region VII
5. Final Environmental Assessment, Partial Closure of Fort Des Moines, Iowa, Department of the Army Corps of Engineers Omaha District	April 1991	USAEC
6. Sampling Design Plan/Safety Plan, Remedial Investigation, Fort Des Moines, Dames and Moore	December 15, 1986	USEPA Region VII
7. Pesticide Monitoring Study No. 17-44-0986-85, Evaluation of Pesticide Contamination of Building 138, Fort Des Moines, Iowa	April 1984	USEPA Region VII
8. Historic Archeological Study, Fort Des Moines III, Des Moines, Polk County, Iowa DACA45-90-C-0129	1992	USAEC
9. Building Maintenance Plan, Fort Des Moines No. 3, Des Moines, Polk County, Iowa, Four Mile Research Company	1991	USAEC
10. National Register of Historic Places Inventory - Nomination Form Prepared by the Afro-American Bicentennial Corporation	December 1973	USAEC
11. Memorandum of Agreement between the U.S. Army, Advisory Council on Historic Preservation, and the Iowa State Historic Preservation Officer	1986	USAEC
12. U.S. Army Environmental Hygiene Agency Records Pertaining to Radioactive Materials at Community Environmental Response Facilitation Act Installations	March 25, 1994	USAEC
13. Installation Assessment Army Base Closure Program, U.S. Environmental Protection Agency (Aerial Photographs)	June 1990	USAEC
14. Real Estate Transfer Register		USAEC
15. Community Environmental Response Facilitation Act Site Visit	November 4, 1993	TETC
16.* Final Environmental Investigation/Risk Assessment/Alternatives Analysis Report	August 1995	USAEC
17. Community Environmental Response Facilitation Act, Site visit	July 1993	TETC
18. Personal Interviews	Various	Various

Document	Date	Source
19. Notification of Emergency Permit Authorization, U.S. Envieonmental Protection Agency Region VII to FDM Installation	July 29, 1993	USEPA Region VII
20. Telephone Conversation Record	August 4, 1993	USEPA Region VII
21. Resource Conservation and Recovery Information System Handler Module Data Entry Form for Emergency Permit, Fort Des Moines	August 9, 1993	USEPA Region VII
22. Provisional ID Number Request Questionnaire, Fort Des Moines	July 28, 1993	USEPA Region VII
23. U.S. Environmental Protection Agency Alternative Remedial Contracting Strategy, Regions VI, VII, and VIII, Summary Report, Fort Des Moines Base Closure, Jacobs Engineering Group	December 1992	USEPA Region VII
24. Base Realignment and Closure Progress Review, Fort Des Moines	March 24, 1993	USEPA Region VII
25. Preliminary Assessment Reassessment Results and Comments, Fort Des Moines, Ecology and Environment, Inc.	May 20, 1988	USEPA Region VII
26. Environmental Risk Information and Imaging Services Report, Fort Des Moines	August 20, 1993	TETC
27. • Public Meeting for Environemntal Study, Fort Des Moines	August 31,1995 (7:00 p.m)	USAEC
28. • Rapid Response Contract Report by OHM	June 1995	USACE
29. • Army Action Memorandum	July 1995	USACE
30. • Public Meeting for Rapid Response Work	August 14, 1995	USACE